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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,780	01/29/2002	Xiaoping Bian	SJ09-2000-130US2	7742
7590	04/13/2004		EXAMINER	
G. Marlin Knight			RICKMAN, HOLLY C	
P.O. Box 1320			ART UNIT	PAPER NUMBER
Pioneer, CA 95666			1773	

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/059,780	BIAN ET AL.	
	Examiner	Art Unit	
	Holly Rickman	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01082004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 1/8/04 has been reviewed but a non-existent document number was cited so the reference listed was not considered. It appears that Applicant may have intended to cite US 2003/0017370 instead. A notice of references cited is included with this communication and cites this reference.

Claim Rejections - 35 USC § 102

2. The rejection of claims 1, 5-6, 10, and 21 under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 2003/0134153) is withdrawn in view of Applicant's amendments.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-10 and 21-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 2003/0134153) in view of Shimizu et al. (US 2003/0091868).

Lee et al. disclose a longitudinal magnetic recording medium and apparatus having a circumferentially textured glass substrate, a CrTi layer, a CoTi seedlayer, a Cr alloy underlayer and a magnetic layer having an orientation ratio of greater than 1 (see Fig. 3; p. 1, paragraph 6; p.

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2, paragraph 14; p. 3, paragraphs 26 and 31). The reference is silent with respect to the use of a RuAl layer in place of the CoTi layer taught therein.

Shimizu et al. teaches the equivalence of the B2 materials RuAl and CoTi for use as underlayer films in magnetic recording media (p. 9, paragraph 180). Lee et al. teaches that the B2 crystal structure of the CoTi layer helps to enhance the coercivity of the overlying magnetic layer.

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute one B2 material such as RuAl for another B2 material, i.e., CoTi, in the structure taught by Lee et al. Such a substitution would have been obvious in view of the teaching of equivalence set forth by Shimizu et al.

Allowable Subject Matter

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 2/9/04 have been fully considered but they are not persuasive.

Applicant argues that Lee et al. and Shimizu et al. cannot be properly combined because Lee et al. is directed to a longitudinal recording medium and Shimizu et al. is directed to a

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perpendicular recording medium. Applicant argues that one of ordinary skill in the art would not look to the perpendicular recording art to establish equivalences for longitudinal recording.

The Examiner respectfully disagrees in the instant case. Shimizu et al. was relied upon to establish that RuAl is a B2 material that is equivalent to CoTi, which is also a B2 material.

Whether the medium using these materials as an underlayer is used for perpendicular recording or longitudinal recording does not change this basic fact. One of ordinary skill in the art at the time of invention would have readily recognized that it is known to add soft magnetic underlayers as Applicant mentioned to perpendicular recording structures. In addition, the deposition of magnetic layers to form the desired perpendicular or in-plane c-axis orientation is well characterized in the art. Neither of these factors affects the equivalence of B2 materials such as RuAl and CoTi.

The Examiner maintains that the similarities between the perpendicular recording medium taught by Shimizu et al and the longitudinal recording medium taught by Lee et al. are strong enough that one of ordinary skill in the art would have deemed them to be analogous art.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shimizu et al. (US 2003/0017370) and Kawai et al. (US 2003/0152810) are cited as art of interest.

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8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman".

Holly Rickman
Primary Examiner
Art Unit 1773

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April 6, 2004